FENCING NOTES

FENCE INSTALLATION
Install posts plumb (within a tolerance of ± 1") using shim plates as required to achieve plumb. The required quantity and thickness of shim plates will be determined in the field. Install chain link fence in accordance with ASTM F 567 as applicable.

TRAFFIC RAILING DETAILS
See Superstructure Sheets for Traffic Railing Barrier details.

CONCRETE PARAPET DETAILS
See Index No. 820 Pedestrian/Bicycle Railing for Concrete Parapet details. Provide fencing in lieu of aluminum bullet railing as shown in Index No. 820.

LIMITS OF FENCING
Limits of fencing are from begin of approach slab at Begin Bridge to end of approach slab at End Bridge, unless otherwise shown in the plans.

PAYMENT
Payment will be made under Fencing Type R. Payment includes posts, horizontal and expansion rails, brace rails and bands, rail ends, combination rail ends, boulevard clamps, chain link fabric, tension wire, lines, hog rings, tension bars and bands, post and loop caps, pipe clamps, base plates, anchor rods, bolts, nuts, washers, shim plates, spacers, neoprene pads, miscellaneous fence fittings and hardware and all incidental materials and labor required to complete installation of the fence.

CROSS REFERENCE
For Table of Fence Components, Table of Post Attachment Components, View A-A and Detail "A" see Sheet No. 2.
For Pull Post Assembly Detail for Traffic Railing Barriers see Sheet No. 3.
For Pull Post Assembly Detail for Concrete Parapets and Detail "B" see Sheet No. 4.
### TABLE OF CHAIN LINK FENCE COMPONENTS

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>ASTM DESIGNATION</th>
<th>COMPONENT INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posts</td>
<td>A 1083</td>
<td>Galvanized Steel Pipe - 2&quot; NPS, Schedule 40 (3.500&quot; Outside Diameter, 0.216&quot; Wall Thickness)</td>
</tr>
<tr>
<td>Chain Link Fabric (2&quot; mesh with twisted top &amp; knuckled bottom seizure)</td>
<td>A 392</td>
<td>Zinc Coated Steel - No. 9 gage (coated wire diameter), Class 2 Coating</td>
</tr>
<tr>
<td>Tie Wires</td>
<td>F 668</td>
<td>Zinc Coated Steel Wire - No. 9 gage</td>
</tr>
<tr>
<td>Brace Bands</td>
<td>F 626</td>
<td>No. 12 Gage (Min. thickness) x 5&quot; (Min. width) Steel Bands (Beveled or Heavy)</td>
</tr>
<tr>
<td>Tension Bars</td>
<td>F 626</td>
<td>3/8&quot; (Min. thickness) x 5&quot; (Min. width) x 5'-10&quot; (Min. height) Steel Bars</td>
</tr>
<tr>
<td>Expansion Rails</td>
<td>F 1083</td>
<td>Galvanized Steel Pipe - 2½&quot; NPS, Schedule 40 (2.875&quot; Outside Diameter, 0.203&quot; Wall Thickness)</td>
</tr>
<tr>
<td>Bolts</td>
<td>A 307</td>
<td>⅜&quot; Ø x 4½&quot; Hex Head Bolts for Expansion Rail Connections</td>
</tr>
<tr>
<td>Nuts</td>
<td>A 563</td>
<td>Hex Nuts for Expansion Rail Connections</td>
</tr>
<tr>
<td>Washer</td>
<td>F 436</td>
<td>Flat Washers for Expansion Rail Connections</td>
</tr>
<tr>
<td>Neoprene Pads</td>
<td></td>
<td>In accordance with Specification Section 932</td>
</tr>
</tbody>
</table>

### TABLE OF POST ATTACHMENT COMPONENTS

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>ASTM DESIGNATION</th>
<th>COMPONENT INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pipe Clamps</td>
<td>F 1554 Grade 36</td>
<td>Fully threaded Hex Head Anchor Rods - ⅜&quot; Ø x 6&quot; (no spacer) or ⅜&quot; Ø x 7½&quot; (with spacer)</td>
</tr>
<tr>
<td>Base Plates</td>
<td>F 1554 Grade 36</td>
<td>Hex Head Anchor Rods - ⅜&quot; Ø x 6&quot; (no spacer) or ⅜&quot; Ø x 7½&quot; (with spacer)</td>
</tr>
<tr>
<td>Shim Plates</td>
<td>F 1554 Grade 36</td>
<td>Fully threaded Hex Head Anchor Rods - ⅜&quot; Ø x 14½&quot;</td>
</tr>
<tr>
<td>Spacers</td>
<td>-</td>
<td>⅜&quot; Ø for all materials</td>
</tr>
<tr>
<td>C-I-P Anchor Rods</td>
<td>F 1554 Grade 36</td>
<td>Fully threaded Headless Anchor Rods - ⅜&quot; Ø x 6&quot; (no spacer) or ⅜&quot; Ø x 7½&quot; (with spacer)</td>
</tr>
<tr>
<td>C-I-P Anchor Rods</td>
<td>F 1554 Grade 36</td>
<td>Hex Head Anchor Rods - ⅜&quot; Ø x 6&quot; (no spacer) or ⅜&quot; Ø x 7½&quot; (with spacer)</td>
</tr>
<tr>
<td>C-I-P Anchor Rods</td>
<td>F 1554 Grade 36</td>
<td>Hex Head Anchor Rods - ⅜&quot; Ø x 14½&quot;</td>
</tr>
<tr>
<td>Nuts</td>
<td>A 563</td>
<td>Hex Nuts for Pipe Clamp and Base Plate Connections</td>
</tr>
<tr>
<td>Washers</td>
<td>F 436</td>
<td>Flat Washers for Pipe Clamp and Base Plate Connections</td>
</tr>
<tr>
<td>Neoprene Pads</td>
<td></td>
<td>Flat Washers for Pipe Clamp and Base Plate Connections</td>
</tr>
</tbody>
</table>

### POST ATTACHMENT NOTES

ANCHOR RODS, NUTS AND WASHERS:
After the nuts have been tightened, distort the Anchor Rod threads to prevent removal of the nuts. Coat distorted threads and exposed trimmed ends of anchors with a galvanizing compound in accordance with Specification Section 975.

COATINGS:

ADHESIVE BONDED ANCHORS AND DOWELS:
Adhesive Bonding Material Systems for Anchors and Dowels will comply with Specification Section 937 and be installed in accordance with Specification Section 416. Cutting of reinforcing steel is permitted for drilled hole installation.

WELDING:
All welding will be in accordance with the American Welding Society Structural Welding Code (Steel) AWS D1.1 (current edition). Weld metal will be E60XX or E70XX. Nondestructive testing of welds is not required.

CROSS REFERENCE:
For location of View A-A and Detail "A" see Sheet No. 1.
BRIDGE FENCING (VERTICAL)

PIPE CLAMP CONNECTION DETAIL
(Connection without spacer shown, Connection with spacer similar)

PIPE CLAMP DETAIL

SPACER DETAIL
(Must be manufactured from an incompressible material (i.e., steel or aluminum))

NOTES:
1. For treatment at bridge ends, see Sheet No. 1.
2. The 3'-0" dimension shown is for expansion joint openings 9' or less. If the expansion joint opening exceeds 9', increase this dimension by the difference between the expansion joint opening and 9'.

REFERENCES:
(See Notes 1 and 2)
NOTES:
1. For treatment at bridge ends, see Sheet No. 1.
2. The 3'-0" dimension shown is for expansion joint openings 9" or less. If the expansion joint opening exceeds 9", increase this dimension by the difference between the expansion joint opening and 9".
3. This dimension is the expansion joint opening plus 1'. Expansion rails are required at expansion joint locations where the total movement exceeds 1', but is less than or equal to 9". Expansion rails are part of expansion assemblies when the total movement exceeds 6'. Install expansion rails midway between the fence posts spanning the expansion joint.
4. Install nuts for expansion rails finger-tight. Nuts will fully engage bolts with a minimum of one bolt thread extending beyond the nuts. Discard the first thread on the outside of the nut to prevent loosening.

**BRIDGE FENCING (VERTICAL)**

**DETAIL "B"**

- **BASE PLATE DETAIL**
  - 1" Ø Holes for 5/8" anchors (Typ.)
  - 3/8" Ø Base Plate
  - 16" 50" 150"

- **EXPANSION RAIL DETAIL**
  - Varies (See Note 3)
  - 5" 9"
  - 3/8" Ø Bolt with hex Nut and Washer (See Note 4)

- **EXPANSION ASSEMBLY DETAIL**
  - (Required only at expansion joint locations where total movement exceeds 6')

- **PULL POST ASSEMBLY DETAIL FOR CONCRETE PARAPETS**
  - 6" x 8" x 3/4" Thick Neoprene Pad
  - Concrete Parapet
  - 2 - 3/8" Ø C-I-P Anchor Rods or Adhesive-Bonded Anchors (shown) set in drilled holes with heavy Hex Nuts and Washers

**CROSS REFERENCE:**
For location of Detail "B" see Sheet No. 1.